

Cont Sub B2 21. (New) The tip of claim 20, further comprising a third edge corner having a corner angle of 90° or less.

AI Sub C2 22. (New) The tip of claim 19, wherein another cutting edge defining the second edge corner is not parallel to another opposite cutting edge of the first edge corner.

Sub D1 23. (New) The tip of claim 19, wherein the plate has a seating face and a cutting edge face, wherein the tip has at least one side surface that extends between the seating face and the cutting edge face, wherein the at least one side surface outwardly inclines from the seating face to the cutting edge face.

24. (New) The tip of claim 23, wherein the seating face is parallel to the cutting edge face.

25. (New) The tip of claim 23, wherein the seating face is not parallel to the cutting edge face.

26. (New) The tip of claim 21, further comprising a sub-cutting edge inclined so as to retreat inside as said sub-cutting edge approaches said third edge corner.

27. (New) The tip of claim 19, further comprising a cutting edge slippage formed as a strengthening portion by which the cutting edge is strengthened.

28. (New) The tip of claim 27, wherein the strengthening portion is constructed so that a rake angle of a fourth edge corner is made as small as a rake angle of the second edge corner.

29. (New) The tip of claim 27, wherein a circle honing is treated in each cutting edge corner as the strengthening portion, and the strengthening portion is made so that a curvature radius of the tip in the strengthening portion is larger than a curvature radius of another portion of the first cutting edge.

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30. (New) The tip of claim 27, wherein a land part is formed in each cutting edge in a face as the strengthening portion, and the strengthening portion is made so that a width of land part in the strengthening portion is larger than a width of another portion of the first cutting edge.

31. (New) The tip of claim 27, further comprising a sub-cutting edge that inclines to another portion so that the sub-cutting edge retreats inside of a face as the sub-cutting edge approaches an edge corner.

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32. (New) A cutting tool comprising:  
a tool body having a distal end; and  
a plurality of tips mounted to the distal end of the tool body, each tip of the plurality of tips comprising a plate of substantially quadrilateral shape, the plate having a corner defined by two adjacent cutting edges having a corner angle of  $90^\circ$  or less, the plate having an opposite cutting edge located opposite to one of the two adjacent cutting edges and being in a non-parallel orientation to each other,

wherein the two adjacent cutting edges are arranged to project along an outer periphery of the distal end of the tool body.

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33. (New) The cutting tool of claim 32, wherein a cutting edge extending from the corner inward in a radial direction of the tool body is defined as a front cutting edge extending to a rotation axis of the tool body.

34. (New) The cutting tool of claim 32, wherein:  
each tip of the plurality of tips has two opposing cutting edges defined as long cutting edges and another two opposing cutting edges defined as short cutting edges;

one of the long cutting edges in a first of the plurality of tips projecting towards the distal end of the tool body is defined as a first front peripheral cutting edge and one of the

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short cutting edges in the first of the plurality of tips is defined as a first outer peripheral cutting edge;

one of the short cutting edges in a second of the plurality of tips projecting towards the distal end of the tool body is defined as a second front peripheral cutting edge and one of the long cutting edges in the second of the plurality of tips is defined as a second outer peripheral cutting edge; and

the first and second front cutting edges are provided at the distal end of the tool body.

35. (New) The cutting tool of claim 34, wherein the first and second outer peripheral cutting edges are oriented such that rotations paths of the first and second outer peripheral cutting edges overlap when the tool body is rotated around a rotation axis.

36. (New) The cutting tool of claim 32, further comprising a second edge corner having a corner angle of 90° or less.

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37. (New) The cutting tool of claim 36, further comprising a third edge corner having a corner angle of 90° or less.

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38. (New) The cutting tool of claim 32, wherein the plate has a seating face and a cutting edge face, wherein each tip has at least one side surface that extends between the seating face and the cutting edge face, wherein the at least one side surface outwardly inclines from the seating face to the cutting edge face.

39. (New) The cutting tool of claim 38, wherein the seating face is parallel to the cutting face.

40. (New) The cutting tool of claim 32, wherein the seating face is not parallel to the cutting face.

41. (New) A tip for a drill tool, said tip comprising:

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a body having a generally quadrilateral cutting edge configuration, the body having an edge corner defined by two cutting edges forming a corner angle of  $90^\circ$  or less,

wherein one of the two cutting edges is positioned on an opposite side of the body from an opposite cutting edge, and

wherein the one of the two cutting edges is not parallel to the opposite cutting edge.

42. (New) A drill tool comprising:

a tool body; and

a tip body mounted on the tool body, the tip body having a generally quadrilateral cutting edge configuration, the tip body having an edge corner defined by two cutting edges forming a corner angle of  $90^\circ$  or less,

wherein one of the two cutting edges is positioned on an opposite side of the tip body from an opposite cutting edge, and

wherein the one of the two cutting edges is not parallel to the opposite cutting edge.

43. (New) A throwaway tip comprising a plate of a substantially rectangular shape, said plate having a corner angle of two adjacent corner cutting edges of a first side in a surface being set to  $90^\circ$  or less, and two opposing ridges on the first side including the two adjacent corner cutting edges are defined as cutting edges which are in a non-parallel orientation to each other.

44. (New) A throwaway tip according to Claim 43, wherein a corner angle of one of the two adjacent corner cutting edges on a second side of said surface is set to  $90^\circ$  or less.

45. (New) A throwaway tip according to Claim 43, wherein two ridges on the second side in said surface are defined as cutting edges which are non-parallel to each other.

46. (New) A throwaway tip according to Claim 45, wherein said two pairs of opposing cutting edges which are non-parallel to each other are inclined so that a distance

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between each of the cutting edges and a seating surface opposing said surface gradually changes from the first side toward the second side.

47. (New) A throwaway tip according to Claim 44, wherein two ridges on the second side in said surface are defined as cutting edges which are non-parallel to each other.

48. (New) A throwaway tip according to Claim 47, wherein said two pairs of opposing cutting edges which are non-parallel to each other are inclined so that a distance between each of the cutting edges and a seating surface opposing said surface gradually changes from the first side toward the second side.

49. (New) A throwaway-type cutting tool comprising:

a tool body having a distal end; and

a plurality of throwaway tips mounted to the distal end of the tool body, each of said plurality of throwaway tips comprising a plate of a substantially rectangular shape, said plate having a corner angle of two adjacent corner cutting edges of a first side in a surface being set to 90° or less, and two opposing ridges on the first side including the two adjacent corner cutting edges are defined as cutting edges which are in a non-parallel orientation to each other, each of said plurality of throwaway tips having a cutting edge arranged to project toward the distal end,

wherein said two adjacent corner cutting edges on the first side in each of said plurality of throwaway tips are arranged to project toward an outer periphery of the distal end of the tool body.

50. (New) The throwaway-type cutting tool according to Claim 49, wherein a cutting edge extending from one of said two adjacent corner cutting edges inward in a radial direction of the tool body is defined as a front cutting edge to extend to a rotation axis of the tool body.

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51. (New) The throwaway-type cutting tool according to Claim 49, wherein two cutting edges on one side of said throwaway tip which are non-parallel to each other are defined as long cutting edges, two cutting edges on another side which are non-parallel to each other are defined as short cutting edges, a long cutting edge in a first of said plurality of throwaway tips projecting toward the distal end of the tool body is defined as a front cutting edge and a short cutting edge is defined as an outer peripheral cutting edge, a short cutting edge in a second of said plurality of throwaway tips is defined as a front cutting edge and a long cutting edge is defined as an outer peripheral cutting edge, and the front cutting edges are provided at the distal end of the tool body.

52. (New) The throwaway-type cutting tool according to Claim 51, wherein the long cutting edges defined as outer peripheral cutting edges are provided on the tool body at the distal end of said throwaway tip so that rotation paths of outer peripheral cutting edges overlap when the tool body is rotated around a rotation axis.

53. (New) The throwaway-type cutting tool according to Claim 49, wherein a corner angle of one of the two adjacent corner cutting edges on a second side of said surface is set to 90° or less.

54. (New) The throwaway-type cutting tool according to Claim 53, wherein two ridges on the second side in said surface are defined as cutting edges which are non-parallel to each other.

55. (New) The throwaway-type cutting tool according to Claim 54, wherein said two pairs of opposing cutting edges which are non-parallel to each other are inclined so that a distance between each of the cutting edges and a seating surface opposing said surface gradually changes from the first side toward the second side.

56. (New) The throwaway-type cutting tool according to Claim 49, wherein two